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<110> Fiscella et al.
 <120> 19 Human secreted proteins
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 <141> 2001-04-11
 <150> PCT/US00/28664
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<150> 60/163,085
<151> 1999-11-02
<150> 60/172,411
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Trp Ser Xaa Trp Ser
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| ccatctcaat tag  |   |  |   |  | 73   |
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| cagttccgcc cattctccgc   |   |  |   |  | 180  |
| ggccgcctcg gcctctgagc   | tattccagaa  | gtagtgagga   | ggcttttttg  | gaggcctagg   | 240  |
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| cigalgacei gggagaatgg   |   |  |   | caccyagece   | 100  |
|   |   |  |   | tactctcaaa   | 240  |
| caggaaatgt ccaccgaggg   | gagtaagtac  | attaatcggg   | aaattaaaaa  |  | 240<br>300   |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac  | gagtaagtac<br>actaatagaa  | attaatcggg<br>caaacaaacg   | aaattaaaaa<br>aggagcgcaa  | atccctgctc   | 300  |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa   | gagtaagtac<br>actaatagaa<br>gaagaagaaa  | attaatcggg<br>caaacaaacg<br>gaggatgccc   | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac  | atccctgctc<br>caaggattca   | 300<br>360   |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc  | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg  | attaatcggg<br>caaacaaacg<br>gaggatgccc<br>tgcaatgaca   | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc  | atccctgctc<br>caaggattca<br>cctctgggag   | 300<br>360<br>420  |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc<br>gagtgtaagc cctgcctgaa   | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg<br>acagacctgt  | attaatcggg<br>caaacaaacg<br>gaggatgccc<br>tgcaatgaca<br>atgaagttct   | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc<br>acgcccgagt  | atccctgctc<br>caaggattca<br>cctctgggag<br>ctgcagaagc   | 300<br>360<br>420<br>480   |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc<br>gagtgtaagc cctgcctgaa<br>agcacagggc tggttggcca  | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg<br>acagacctgt<br>ccaggttgag  | attaatcggg<br>caaacaaacg<br>gaggatgccc<br>tgcaatgaca<br>atgaagttct<br>gagttcctga   | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc<br>acgcccgagt<br>accagagttc  | atccctgctc<br>caaggattca<br>cctctgggag<br>ctgcagaagc<br>tcccttctac   | 300<br>360<br>420<br>480<br>540  |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc<br>gagtgtaagc cctgcctgaa<br>agcacagggc tggttggcca<br>ttctggatta atggcgaccg   | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg<br>acagacctgt<br>ccaggttgag<br>catcgactcc  | attaatcggg<br>caaacaaacg<br>gaggatgccc<br>tgcaatgaca<br>atgaagttct<br>gagttcctga<br>ctgctggaga   | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc<br>acgcccgagt<br>accagagttc<br>acgaccggca  | atccctgctc<br>caaggattca<br>cctctgggag<br>ctgcagaagc<br>tcccttctac<br>gcagacccac   | 300<br>360<br>420<br>480   |
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| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc<br>gagtgtaagc cctgcctgaa<br>agcacagggc tggttggcca<br>ttctggatta atggcgaccg<br>gccctggatg tcatgcagga<br>caggacagat tcttcacccg   | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg<br>acagacctgt<br>ccaggttgag<br>catcgactcc<br>cagtttcgac<br>tgaggcccag  | attaatcggg<br>caaacaaacg<br>gaggatgcc<br>tgcaatgaca<br>atgaagttct<br>gagttcctga<br>ctgctggaga<br>cgggcatcca<br>gaccetttcc  | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc<br>acgcccgagt<br>accagagttc<br>acgaccggca<br>gcatcatgga<br>acttctcacc  | atccctgctc<br>caaggattca<br>cctctgggag<br>ctgcagaagc<br>tcccttctac<br>gcagacccac<br>tgagctgttc<br>cttcagctca   | 300<br>360<br>420<br>480<br>540<br>600<br>660<br>720   |
| caggaaatgt ccaccgaggg<br>ggggtgaagc agataaagac<br>accaacttgg aagaagccaa<br>gaaatgaagc tgaaggcgtc<br>gagtgtaagc cctgcctgaa<br>agcacagggc tggttggcca<br>ttctggatta atggcgaccg<br>gccctggatg tcatgcagga<br>caggacagat tcttcacccg<br>ttccagcgga ggcctttttt  | gagtaagtac<br>actaatagaa<br>gaagaagaaa<br>gcagggggtg<br>acagacctgt<br>ccaggttgag<br>catcgactcc<br>cagtttcgac<br>tgaggcccag<br>cttcaatatc  | attaatcggg<br>caaacaaacg<br>gaggatgcc<br>tgcaatgaca<br>atgaagttct<br>gagttcctga<br>ctgctggaga<br>cgggcatcca<br>gaccctttcc<br>aagcaccgct  | aaattaaaaa<br>aggagcgcaa<br>tgaatgacac<br>ccatgatggc<br>acgcccgagt<br>accagagttc<br>acgaccggca<br>gcatcatgga<br>acttctcacc<br>ttgcccggaa  | atccctgctc<br>caaggattca<br>cctctgggag<br>ctgcagaagc<br>tcccttctac<br>gcagacccac<br>tgagctgttc<br>cttcagctca<br>cataatgcct   | 300<br>360<br>420<br>480<br>540<br>600<br>660<br>720<br>780  |
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| tectactace     | cactggcttg  | gaggagtag   | agggcctcac<br>actcagagga | aggtagtag   | cigetagace | 180  |
| taggagetag     | actagasacc  | cctaactcaa  | gcttccccag               | geetagegag  | accatgggcc | 240  |
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| tagacctaga     | acccactgca  | gattatgttt  | ttcctgactt               | agagetgaat  | gactcaagtc | 360  |
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| atctggttga     | acctccctaa  | catatoccto  | ccagagagga               | ggaagaaga   | cccaagatga | 480  |
| aggaggagag     | ggagaaggaa  | gaggtagaga  | aacaagagga               | ggaagaagag  | gaagaggaag | 540  |
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| dcadcadcca     | daccccada   | gaagaageea  | gcaggcatga               | agagtagaga  | cccccacca  | 660  |
| catcaggtgt     | ggaggtagag  | accaccatac  | ggcccagctt               | agacteeggg  | tanatanaa  | 720  |
| caactacagt     | gactccggg   | gaccaggact  | ccaccagcca               | agaggaggag  | ccagccaccc | 780  |
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| ggataccctg     | agattctaca  | caggagetee  | gcaaggactg               | ggcagctgaa  | geteaateea | 1140 |
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| gggccagcca     | gatacacaac  | gactacggg   | cgctcttcgt               | aaccaycayc  | cyccaggege | 1500 |
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| ccaageteaa     | acacatatca  | caccaccacc  | agetereatt               | ctgctggcag  | cgccggctgc | 1620 |
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| ggcgcaggcc     | gaggggcccg  | ccaccaccaa  | aggaggacac               | geacetgtga  | gcgcagccga | 1860 |
| agcccgcacc     | ageegggeeg  | ctaccagaa   | gcgaggcgga               | acatacaaaa  | gacggcccgg | 1920 |
| tccttcccac     | ttccccccc   | ttgagaggg   | agattagaa                | geetggeeet  | cggcgcgggc | 1980 |
| gaggggcagg     | cctcaaagcc  | cacattagea  | ggcttcggac               | Gaacteecee  | actecegeee | 2040 |
| caaacaacaa     | acaacacttc  | ctacacacaa  | ggagtgaatt               | geceetgaae  | ceeggeeeeg | 2100 |
| ccgggcccag     | cgaaaaaaaa  | aaaaaaaaa   | aaaaaaaaaa               | aaacccgccc  | ggagaccacg | 2160 |
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|                |             | •           |                          |             |            | -    |
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| ∠400× 1E       |             |             |                          |             |            |      |
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| cttagtcttt     | cccarggett  | tactcactgc  | ctactcacct               | gtggtttcca  | aactatgtcc | 120  |
|                |             |             |                          |             |            |      |

| agcctcagcc tctttctaa                          | g ctggagaact | ccatatatcc | agctgcctac | tatatagatg | 180        |
|---|--------------|------------|------------|------------|------------|
| gctctttcag aacagcagc                          |              |            |            |            | 240        |
| ccctatttta gtcaatggc                          |              |            |            |            | 300        |
| aagtteetet tteeteace                          | t cactacagtt | gaccatatgg | atacaaccct | gcctcttcct | 360        |
| ccctaccacc actggctta                          |              |            |            |            | 420        |
| ccacatatcc tttgctact                          |              |            |            |            | 480        |
| tgggacctaa tgccactgt                          |              |            |            |            | 540        |
| tagettgtgt teatetttt                          |              |            |            |            | 600        |
| tgaattaatt aaccacatc                          |              |            |            |            | 660        |
| tacttctgtt cttgcactt                          |              |            |            |            | 720        |
| agggattata tcactccct<br>ctggcccctg ctagacttt  |              |            |            |            | 780        |
| actaggettt aaaaatete                          |              |            |            |            | 840<br>900 |
| cacatatttt actccctgc                          |              |            |            |            | 960        |
| gttatcaact actcagaaa                          |              |            |            |            | 1020       |
| actggttcat cttatttat                          | tatctccttc   | atatttacat | aattaaatct | gttcctcact | 1080       |
| tgaaaaaaa aaaaaaaaa                           |              |            |            | <b>J</b>   | 1103       |
| _   |              |            |            |            |            |
|   |              |            |            |            |            |
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| ggctgctcct gctcttgct                          |              |            |            |            | 120        |
| gccgggccgg gactggtgc                          |              |            |            |            | 180        |
| gcacggtggg gctgctgct                          |              |            |            |            | 240        |
| ageggggete aetgetetg                          |              |            |            |            | 300        |
| tcagcgagga ggagcgggg                          | c cgactccggg | atgtggcagc | atcctacctg | gactgcggtg | 360        |
| ctacgagggc ctgcgggcc                          | t ttgctgtgtg | ccaccctccc | tgtaagtcta | tttaaaaaca | 420        |
| tcgacgatac attgaaatg                          |              |            |            |            | 480        |
| caactgttgt tttggcaag                          |              |            |            |            | 540        |
| ttgatacgtt attcagaaa                          |              |            |            |            | 600        |
| gctcagctgt gttgtgtgg                          |              | actgtccccc | agataaaaaa | aaaaaaaaa  | 660        |
| aaactcgagg gggggcccg                          | g ta         |            |            |            | 682        |
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| <211> 1738                                    |              |            |            |            |            |
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| atgagacagt ggacaggat                          |              |            |            |            | 180        |
| aagctctcat tcccactcc                          |              |            |            |            | 240        |
| gggctcagac actgagaagett                       |              |            |            |            | 300        |
| ggaattccag ggggagcttg<br>ggcatgggat taatatgtg |              |            |            |            | 360<br>420 |
| gcccaggggc tgaaaaatg                          |              |            |            |            | 420        |
| gttgggcaca cagtggcca                          |              |            |            |            | 540        |
| ccatcaaccc tctccccage                         |              |            |            |            | 600        |
| ctctctggga aaggccctc                          |              |            |            |            | 660        |
| ccttaaagga ctccctctt                          |              |            |            |            | 720        |
| tcagtctctg tgggcttcai                         |              |            |            |            | 780        |
|   |              | =          |            |            |            |

|   | gcccaatcct | gcttcctttt   | tccccaaaca               | ggtatccatt        | gcgagaatat | ccgctaataa  | 840        |
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|   |            |              | atctcagaat               |                   |            |             | 900        |
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|   |            |              | atacaaaaat               |                   |            |             | 1200       |
|   | cccagcactt | aggaggctga   | agcatgagaa               | ttgcttgagc        | ccaggaggca | gaggttgcag  | 1260       |
|   |            |              | gcactccagc               |                   |            |             | 1320       |
|   |            |              | agcatagtca               |                   |            |             | 1380       |
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|   |            |              | aggttttcag               |                   |            |             | 1500       |
|   | agggggctga | ggggtcttcc   | tgtgcacttg               | gtcctgcctc        | tttttttt   | taaacccata  | 1560       |
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|   | actgttgact | gtagtcaaaa   | aaaaaaaaa                | aaaaaaaaa         | aaaaaaaaa  | aaaaaaa     | 1738       |
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|   | <211> 2053 |              |                          |                   |            |             |            |
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|   | gatggtgggc | agraggraggra | ctggctgcgt               | tecectecet        | aggggcaggt | ggggagactc  | 180        |
|   | cegaageeee | cccggagtca   | tggacccagc               | tatggttett        | ccgatttgtg | gtgaatgctg  | 240        |
|   | actacataca | cagetttatg   | gtacctggct               | acctcctggt        | gcagtacttc | aggcggaaga  | 300        |
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|   |            |              | gaggttcccc               |                   |            |             | 420        |
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|   |            |              | tgtgttctct               |                   |            |             | 660        |
|   |            |              | ctgtccaatg               |                   |            |             | 720        |
|   | ttaagttcgt | cagetteece   | acccaggtgc               | taaccaaaac        | ctctaaggtg | atccctctca  | 780        |
|   |            |              | tctcggcgca               |                   |            |             | 840        |
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|   |            |              | ggcctcatct               |                   |            |             | 960        |
|   |            |              | gccctgtttg               |                   |            |             | 1020       |
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|   | tactggaggg | aacccgcttc   | atggggcgac               | acagtgagtt        | tgctgcccat | gccctgctac  | 1140       |
|   |            |              | ggccagctct               |                   |            |             | 1200       |
|   |            |              | atgaccctcc               |                   |            |             | 1260       |
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|   | ccctcctgct | cagagtctac   | gcgcggggcc               | gtctaaagca        | acggggaaag | aaggctgtgc  | 1380       |
|   | ctgttgagtc | tcctgtgcag   | aaggtttgag               | ggtggaaagg        | gcctgagggg | tgaagtgaaa  | 1440       |
|   | taggaccctc | ccaccatccc   | cttctgctgt               | aacctctgag        | ggagctggct | gaaagggcaa  | 1500       |
|   | aatgcaggtg | ttttctcagt   | atcacagacc               | agctctgcag        | caggggattg | gggagcccag  | 1560       |
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|   | cccgggggta | gacagtcctc   | agtgaggggt               | tttggggagt        | ttggggtcaa | gagagcatag  | 1680       |
| _ | gtaggttcca | gttactcttc   | ccacaagttc               | <u>ccttaagtct</u> | tgccctagct | gtgctctgcc  | 1740       |
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|   | aaagggtatg | cagagccctg   | cccagcacca               | ccacctccta        | tgctcctgga | tccctaggct  | 1920       |
|   | ctgttccatg | agcctgttgc   | aggttttggt               | actttagaaa        | tgtaactttt | tgctcttata  | 1980       |
|   | attttattt  | attaaattaa   | attactgcaa               | aaaaaaaaa         | aaaaaaaaa  | aaaaaaaaa   | 2040       |
|   |            |              |                          |                   |            |             |            |

| aaaaaaaaaa aaa                             |               |            |            |             | 2053       |
|--|---------------|------------|------------|-------------|------------|
|  |               |            |            |             |            |
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| <213> Homo sapiens                         |               |            |            |             |            |
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| gaactgaagt ttttctt                         | aa ttatcatgtg | acgggttctg | gatttaatgg | ggggaaaagg  | 120        |
| gcggaaaagg acaaggat                        | cc aaactggcga | atttgctgat | cttcgcgtcc | ctctccgctt  | 180        |
| teeggeegge agegetge                        |               |            |            |             | 240        |
| aaactgttta aatgagaa                        |               |            |            |             | 300        |
| tactcttctt gatcatgt                        |               |            |            |             | 360        |
| tcatattyat tccagtct                        |               |            |            |             | 420        |
| tggctgggcg gtgtaagt                        |               |            |            |             | 480        |
| aagcctggta cctcattg                        |               |            |            |             | 540<br>600 |
| aactggaaca gtttacta                        |               |            |            |             | 660        |
| tggctggggc tttaacag                        | aa ctcggatata | acgcectett | ttaaagtgt  | ctgacttctaa | 720        |
| gtacatcatc tcctttct<br>caagcttcaa gaatacca |               |            |            |             | 780        |
| cataaaacag gattggtg                        |               |            |            |             | 840        |
| tttgagttat tgagatco                        |               |            |            |             | 900        |
| aaaaaaaaaa aaaaaaaa                        |               |            |            |             | 960        |
| accqqqqqqq qqqcccc                         |               |            |            |             | 985        |
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| 12 22 12 11 2 11 2 1 2 1 2 1 2 1 2 1 2     |               |            |            |             |            |
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| gcactgcttg gtgctggc                        |               |            |            |             | 180        |
| cttggggtg aagccatt                         |               |            |            |             | 240<br>300 |
| gtgtggtggg aagccagc                        |               |            |            |             | 360        |
| ctggcggcct ggggcttc<br>gctggttact gcccgtac |               |            |            |             | 420        |
| ccagcgccca tgccttct                        |               |            |            |             | 480        |
| ggaacceteg ceagggte                        |               |            |            |             | 540        |
| tgcagacaca tcactggg                        |               |            |            |             | 600        |
| tgggggcacc ctcagacc                        |               |            |            |             | 660        |
| cctaaggact ccgcacaa                        |               |            |            |             | 720        |
| gegeactggg cetecete                        |               |            |            |             | 780        |
| atggcagtgt gcttggtt                        |               |            |            |             | 840        |
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| <213> Homo sapiens                         |               |            |            |             |            |
|  |               |            |            |             |            |
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| aaagggaact.            | ctcatacact | cttaataaaa | atgtaagttg | gtacagccat               | tatggaaaac | 120        |
|------------------------|------------|------------|------------|--------------------------|------------|------------|
|                        |            |            |            | cagcaatccc               |            | 180        |
|                        |            |            |            | gcattctcat               |            | 240        |
|                        |            |            |            | gcccatcaat               |            | 300        |
|                        |            |            |            | cagccttaca               |            | 360        |
|                        |            |            |            | tacgctaagt               |            | 420        |
| tattgaagga             | aagaaataat | actgaaagaa | aaatattgct | tgatctcact               | tatatatgga | 480        |
|                        |            |            |            | atccaggctg               |            | 540        |
|                        |            |            |            | tctattggat               |            | 600        |
|                        |            |            |            | tatggaaaat               |            | 660        |
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|                        |            |            |            | gatcacgagg               |            | 780<br>840 |
|                        |            |            |            | aaaaaaaaat               |            | 900        |
|                        |            |            |            | gggcatgaga               |            | 960        |
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|                        |            |            |            | aaaaaaaaaa               |            | 1080       |
| aaaaaaaaaa             |            | aaaaaaaaa  | aaaaaaaaa  | aaaaaaaaa                | aaaaaaaaa  | 1097       |
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| ccctcagccc             | cagtcgagag | gaaagagaat | cgggccactg | ccagaaagag               | agtcaagcaa | 120        |
| acctggaagg             | gcaaatctga | gagtgggaag | gccaaaggcc | gaggcccaga               | tttagtattc | 180        |
|                        |            |            |            | gcctgtctgc               |            | 240        |
| cttccctaag             | gtacaggttg | gcaggaccac | ctccgcctac | ttctccacca               | tccctagcat | 300        |
| gccagcccgt             | tcccagatca | acctgccagt | ggagtcaggc | agtgcactcc               | tggagccaag | 360        |
|                        |            |            |            | agctccatgg               |            | 420        |
|                        |            |            |            | ggaacagtgc               |            | 480        |
|                        |            |            |            | aatgcacttt               |            | 540        |
|                        |            |            |            | tgaatattca               |            | 600        |
|                        | cctgtcttga | aaaaaaaaa  | aaaaaaaaa  | aaaaaaaaa                | aaaaaaaaa  | 660        |
| aaaaa                  |            |            |            |                          |            | 665        |
|                        |            |            |            |                          |            |            |
| .010. 00               |            |            |            |                          |            |            |
| <210> 23               |            |            |            |                          |            |            |
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|                        | caniene    |            |            |                          |            |            |
| <213> Homo             | saptens    |            |            |                          |            |            |
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|                        | cccctagacc | tactaaacca | cacaaaaaaa | ctttcgagga               | ggaagaagac | 60         |
|                        |            | •          |            | ctcatagtca               |            | 120        |
|                        |            |            |            | tactacccag               |            | 180        |
|                        |            |            |            | gtggagaata               |            | 240        |
|                        |            |            |            | gccgccttct               |            | 300        |
|                        |            |            |            |                          | acgggaagat | 360        |
|                        |            |            |            |                          | aagtgagcag | 420        |
|                        |            |            |            | cgaccccacg               |            | 480        |
|                        |            |            |            |                          | cctgcaactg | 540        |
|                        |            |            |            | tcgatgtgct               |            | 600        |
|                        |            |            |            | agtctcagaa               |            | 660        |
|                        |            | aaaaaaaaa  |            |                          |            | 700        |
|                        |            |            |            |                          |            |            |

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| <210> 24<br><211> 1828  |            |                          |            |            |            |              |
| <211> 1828<br><212> DNA |            |                          |            |            |            |              |
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| (213/ 1101110           | Bapiens    |                          |            |            |            |              |
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| aaatctttgc              | ctcccaataa | ttttattcaa               | catgttggga | taatggaggc | taagggaagc | 120          |
| tcagatgtat              | ggttctgctg | cagcaaagtg               | tttgcctgct | ttatttagct | aatactttt  | 180          |
|                         |            | tttttttt                 |            |            |            | 240          |
| ttaaaggcct              | tttcttttag | cctctgctct               | gcaatctcgc | cagtaacccc | tgggttcaga | 300          |
|                         |            | tactgtggca               |            |            |            | 360          |
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|                         |            | cactaagagg               |            |            |            | 480          |
|                         |            | gaaaataatg               |            |            |            | 540          |
|                         |            | gagaagggac               |            |            |            | 600          |
|                         |            | ttttaaatac               |            |            |            | 660          |
|                         |            | tatcacaagt               | _          |            |            | 720          |
|                         |            | atgaaatctt               |            |            |            | 780          |
|                         |            | tccctgatta               |            |            |            | 840          |
|                         |            | gttcttcttg               |            |            |            | 900          |
|                         |            | tcaaggaaac               |            |            |            | 960          |
|                         |            | tgtaattgaa               |            |            |            | 1020         |
|                         |            | tatatatata<br>agtgttccca |            |            |            | 1080<br>1140 |
|                         |            | catagcattt               |            |            |            | 1200         |
|                         |            | caatgaaaac               |            |            |            | 1260         |
|                         |            | acatgacaga               |            |            |            | 1320         |
|                         |            | aatatgtaca               |            |            |            | 1380         |
|                         |            | ggaaaaaaaa               |            |            |            | 1440         |
|                         |            | ttgttaggaa               |            |            |            | 1500         |
|                         |            | cagcaatatc               |            |            |            | 1560         |
|                         |            | ttatcaatac               |            |            |            | 1620         |
|                         |            | ttttttactt               |            | _          |            | 1680         |
|                         |            | tttattatgt               |            |            |            | 1740         |
|                         |            | tgtctctggg               |            |            |            | 1800         |
|                         | aaaaaaaaa  |                          | 3 3        | 555        |            | 1828         |
| 33                      |            |                          |            |            |            |              |
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|                         |            | catttccact               |            |            |            | 180          |
|                         |            | ttgtttgtca               |            |            |            | 240          |
|                         |            | gtaacctata               | -          |            | -          | 300          |
|                         |            | ataaaacctc               |            |            |            | 360          |
|                         |            | tgtctaaagt               |            |            | _          | 420          |
|                         |            | caaattaagt               |            |            |            | 480          |
|                         |            | tttcccatct               |            |            |            | 540          |
|                         |            | tagattttca               |            |            |            | 600          |
|                         |            | ttaaggagat               |            |            |            | 660          |

| cgctaactg             | g tatctacaaa                 | ı aaaaaaaaaa | aa         |            |            | 692          |
|-----------------------|------------------------------|--------------|------------|------------|------------|--------------|
|                       |                              |              | •          |            |            |              |
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| <400> 26              |                              |              |            |            |            |              |
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| cacagaatg             | c gtattctcgt                 | cactgtcctt   | tctatqtcaq | cattcagagt | tactggctgt | 120          |
| catttttca             | t ggtgatgatt                 | ttatttgtag   | ctttcataac | ctqttqqqaa | gaagttacta | 180          |
| ctttggtac             | a ggctatcagg                 | ataacttcct   | atatgaatga | aactatctta | tattttcctt | 240          |
| tttcatccc             | a ctccagttat                 | actgtgagat   | ctaaaaaaat | attcttatcc | aagctcattg | 300          |
| tctgttttc             | t cagtacctgg                 | ttaccatttg   | tactacttca | ggtaatcatt | gttttactta | 360          |
| aagttcaga             | t tccagcatat                 | attgagatga   | atattccctg | gttatacttt | gtcaatagtt | 420          |
| ttctcattg             | c tacagtgtat                 | tggtttaatt   | gtcacaagct | taatttaaaa | gacattggat | 480          |
| taccitigg             | a tccatttgtc                 | aactggaagt   | gctgcttcat | tccacttaca | attcctaatc | 540          |
| cagatata              | t tgaaaagcct                 | atatcaataa   | tgatttgtta | atattattaa | ttaaaagtta | 600          |
| actgaacta             | t aagatcataa<br>a aacaaaaaa  | anananan     | agaaagaact | caggacatat | taaaaaataa | 660          |
| accgaacca             | a aacaaaaaa                  | aadaadaada   | aaaaaaaaaa |            |            | 700          |
| -210- 27              |                              |              |            |            |            |              |
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| <211> 2/5             |                              |              |            |            |            |              |
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| (213) 11011           | o sapiens                    |              |            |            |            |              |
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| ttgaggaaa             | a ccacaaaaa                  | cttcaaaaca   | gctacaacgg | gaaaaagaga | gttttgtccc | 120          |
| acagtcage             | a ggccactagt                 | ttattaactt   | ccagtcacct | tgatttttgc | taaaatgaag | 180          |
| acceageag             | t ctacacttct                 | tatatatata   | cttgtgcctc | tgataaagcc | agcaccacca | 240          |
| tttagccaa             | g actcacgcat<br>g attatgagga | taaatacctc   | gatggaacag | ataattttga | agaatccata | 300          |
| gtgataata             | c ccaatgagaa                 | aagtetteaa   | ttacaaaaa  | atactaayga | aaaagaaact | 360<br>420   |
| cctcccaag             | a aagaaaatga                 | tgaaatgccc   | acatatata  | tatatattta | tttaagtggg | 480          |
| tctgtatact            | gtgaagaagt                   | tgacattgat   | gctgtaccac | ccttaccaaa | ggaatcagcc | 540          |
| tatctttac             | g cacgattcaa                 | caaaattaaa   | aagctgactg | ccaaagattt | tgcagacata | 600          |
| cctaactta             | a gaagactcga                 | ttttacagga   | aatttgatag | aagatataga | agatggtact | 660          |
| ttttcaaaa             | c tttctctgtt                 | agaagaactt   | tcacttgctg | aaaatcaact | actaaaactt | 720          |
| ccagttctt             | c ctcccaagct                 | cactttattt   | aatgcaaaat | acaacaaaat | caagagtagg | 780          |
| ggaatcaaa             | g caaatgcatt                 | caaaaaactg   | aataacctca | ccttcctcta | cttggaccat | 840          |
| aatgccctg             | g aatccgtgcc                 | tcttaattta   | ccagaaagtc | tacgtgtaat | tcatcttcag | 900          |
| ttcaacaaca            | a tagcttcaat                 | tacagatgac   | acattctgca | aggctaatga | caccagttac | 960          |
| acccgggac             | gcattgaaga                   | gatacgcctg   | gagggcaatc | caatcgtcct | gggaaagcat | 1020         |
| otacaacagti           | ttatttgctt                   | aaaaagatta   | ccgatagggt | catactttta | acctctattg | 1080         |
| aacttaact             | taaatgaaag                   | tacacctaca   | ctaatagtct | gtctcaacaa | tgwgtaaagg | 1140         |
| agcaaggato            | a ttggtttaat<br>g ttcaaaatct | tacatataat   | aagtaaaaa  | taaggaatt  | taatattta  | 1200         |
| cqaaacaaa             | g taatatgaaa                 | atatttaaac   | agradadag  | aatcotact  | tatagtage  | 1260         |
| taccatttaa            | aaatcatgtt                   | tttatataaa   | tacccaaatt | taagatagat | tattoctatt | 1320         |
| actaatqato            | g taagtacgag                 | gataaatcca   | agaaactttc | aactctttac | ctttcctace | 1380<br>1440 |
| ctttactgga            | tcccaaaagc                   | atttaaqqta   | catqttccaa | aaactttgaa | aagctaaatg | 1500         |
| tttcccatga            | tcgctcattc                   | ttcttttatg   | attcatacqt | tattccttat | aaaqtaaqaa | 1560         |
| ctttgttttc            | ctcctatcaa                   | ggcagctatt   | ttattaaatt | tttcacttag | tctgagaaat | 1620         |
| agcagatagt            | : ctcatattta                 | ggaaaacttt   | ccaaataaaa | taaatqttat | tctctgataa | 1680         |
| agagctaata            | cagaaatgtt                   | caagttattt   | tactttctgg | taatgtcttc | agtaaaatat | 1740         |

| 13  |                |
|---|----------------|
| at case of the control of the case of the | 1800           |
| tttctttatc taaatattaa cattctaagt ctaccaaaaa aagttttaaa ctcaagcagg ccaaaaccaa tatgcttata agaaataatg aaaagttcat ccatttctga taaagttct  | 1860           |
| tatggcaaag tettteaaat acgagataac tgcaaaatat ttteetttta tactacagaa   | 1920           |
| atgagaatct catcaataaa ttagttcaag cataagatga aaacagaata ttctgtggtg   | 1980           |
| ccagtgcaca ctaccttccc acccatacac atccatgttc actgtaacaa actgaatatt   | 2040           |
| cacaataaag cttctgagta acactttctg attactcatg ataaactgac atggctaact   | 2100           |
| gcaagaatta aatcttctat ctgagagtaa taatttatga tgactcagtg gtgccagagt   | 2160           |
| aaagtttcta aaataacatt cctctcactt gtaccccact aaaagtatta gtctacacat   | 2220           |
| tacattgaag ttaaacacaa aattatcagt gttttagaaa catgagtccg gactgtgtaa   | 2280           |
| gtaaaagtac aaacattatt tccaccataa agtatgtatt gaaatcaagt tgtctctgtg   | 2340           |
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| gtcagatgtt tttcagttat ctccccattt gtcaaagttg acctcaagat aacatttttc   | 2460           |
| attaaagcat ctgagatcta agaacacaat tattattcta acaatgatta ttagctcatt   | 2520           |
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| atgcctcatt tccctgactt aaacctcact gagagcgcaa aatgcagctt tatacttttt   | 2640           |
| actttcaatt gcctagcaca atagtgagta catttgaatt gaatatataa taaatattgo   | 2700           |
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| gcccaagtct gactctaaaa ttctgctttc ttcatttagt ttttctgcca ttcaaagtt  | 180            |
| actgccaget cetecaggaa ettetgagta ageetgtete caaattgeee etaacteet  | 240            |
| agtgccagtc atgggccagg cccctggggg acttggaatg agtaaaacat gcacctatte   | g · 300        |
| ttaaggttca cctggtccag aaggggaggc agacccacct gcccaccatg acccggaca  | g 360          |
| aggegataaa taeggageae eteatggeea gggeetggag gatteeeace ataecetae  | 2 420<br>2 480 |
| cagegecaat aacagaggga ceetggagtt gtgtacacaa gatageagtt cagtgettg  | a 540          |
| acacatacta gttgagaagg gaaatcaggg ctaatgaaac agctcaactg tctggcaga  | a 600          |
| ccaggeteet tetgecatga tacagtttgg atgtttgtee etttetaate ttatatgga atttgatee cagtgttgaa ggtggggeet ggtgggagat gtteetgtta tegggatgg  | a 660          |
| tccttcatga atagcctggt gccatctttg tggtaacaag tgagttctca cttgattag  | t 720          |
| ttctgtgaga actgtttgtt aaaaagagcc tggtggcacc tccctccctt cttcctcct  | t 780          |
| ctettgetat gtgatgetge tgeeetttge etteegteat gagtggaage teeetgaag  | c 840          |
| ccccaccaga agcaaatgct ggcaccatgc tgcttgtaca gcctgcagaa ctgtgagcc  | a 900          |
| aataaacctc ttttctttat aaattaaaaa aaaaaaaa   | 947            |
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|   |                |
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| aactotggat ttgctgctgc ctcttctgga agccctgctg gtttttgggag ttccccagc   | a 180          |
|   |                |
| gggaageetg aagteacate ggetgeatea tttteattea aaageeetge agetteeag  | t 300          |
| tttqqatcac ctggattttc aggacttcca gcttccttgg caacaggtcc tgtcagagc  | t 360          |
| cccagtggcc ccagcetttg gaggtggcag ttetgtgget ggttttggta gteegggge  | t 420          |
| cacattetea caetggettt ttetaageea teeagtggae aettttggaa atageeagg  | c 480          |
| atatcccact tctctgtcag cccttcaagc cagcatcaat tgcaacagat aatgtgtta  | t 540          |
| -   |                |

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                                                                       720
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                                                                       780
                                                                       840
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accgggggg gggcccccc cccaa

| cggcct  | ggac   | catggacgcc | agatggtggg | cagtggtggt | gctggctgcg | ttcccctccc  | 180  |
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|         |        |            | gctggctatg |            |            |             | 300  |
|         |        |            | aactacctgg |            |            |             | 360  |
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| gaacag  | jaggc  | ggcagagacc | accccgatgt | ggcaggccct | gaagctgctc | ttctgtgcca  | 480  |
| cagggc  | tcca   | ggtgtcttat | ctgacttggg | gtgtgctgca | ggaaagagtg | atgacccgca  | 540  |
| gctatg  | gggc   | cacagccaca | tcaccgggtg | agcgctttac | ggactcgcag | ttcctggtgc  | 600  |
| taatga  | accg   | agtgctggca | ctgattgtgg | ctggcctctc | ctgtgttctc | tgcaagcagc  | 660  |
| cccggc  | atgg   | ggcacccatg | taccggtact | cctttgccag | cctgtccaat | gtgcttagca  | 720  |
| gctggt  | gcca   | atacgaagct | cttaagttcg | tcagcttccc | cacccaggtg | ctggccaagg  | 780  |
| cctcta  | aggt   | gatccctgtc | atgctgatgg | gaaagcttgt | gtctcggcgc | agctacgaac  | 840  |
| actggg  | gagta  | cctgacagcc | accctcatct | ccattggggt | cagcatgttt | ctgctatcca  | 900  |
| gcggac  | caga   | gccccgcagc | tccccagcca | ccacactctc | aggcctcatc | ttactggcag  | 960  |
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|         |        |            | ctactggagg |            |            |             | 1140 |
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|         |        |            | gctgccgtct |            |            |             | 1260 |
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|         |        |            | cctgttgagt |            |            |             | 1440 |
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|         |        |            | ccggncccca |            | 3          |             | 2072 |
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| <213> H | lomo : | sapiens    |            |            |            |             |      |
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|         |        |            | aaactggcga |            |            |             | 180  |
| tccggc  | cggc   | agcgctgcca | gggtatattt | ccttttttcc | gatcctgcaa | cagcctcttt  | 240  |
| _       |        |            | tccttggctc |            |            |             | 300  |
| tactct  | tctt   | gatcatgttg | gtgttgaaac | tggatgagaa | agcaccttgg | aactggttcc  | 360  |
|         |        |            | atatttgata |            |            |             | 420  |
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| aagcct  | ggta   | cctcattgca | atgttactta | aattagcctt | ctgcctcgca | ctctgtgcta  | 540  |
| aactgg  | gaaca  | gtttactacc | atgaatctat | cctatgtctt | cattccttta | tgggccttgc  | 600  |
| tggctg  | ggggc  | tttaacagaa | ctcggatata | atgtctttt  | tgtgagagac | tgacttctaa  | 660  |
|         |        |            |            |            |            | _ctgaatctgt | 720  |
| caagct  | tcaa   | gaataccaga | gaactgaggg | aaaataccaa | atgtagtttt | atactacttc  | 780  |
|         |        |            |            |            |            | ttattcagca  | 840  |
| tttgag  | gttat  | tgagatcctt | attatctcta | tgtaaataaa | gtttgttttg | gacctcaaaa  | 900  |
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Met Ser Thr Glu Gly Ser Lys Tyr Ile Asn Arg Glu Ile Lys Asn Ala
Leu Lys Gly Val Lys Gln Ile Lys Thr Leu Ile Glu Gln Thr Asn Glu
    50
                        55
Glu Arg Lys Ser Leu Leu Thr Asn Leu Glu Glu Ala Lys Lys Lys Lys
                    70____
                                        75
Glu Asp Ala Leu Asn Asp Thr Lys Asp Ser Glu Met Lys Leu Lys Ala
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                                    90
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Ser Gln Gly Val Cys Asn Asp Thr Met Met Ala Leu Trp Glu Glu Cys

<211> 766 <212> PRT

<213> Homo sapiens

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310

315

Asp Glu Phe Lys Leu Phe Met Lys Arg Leu Pro Met Asn Tyr Phe Leu 325 Asn Thr Ser Thr Ile Met His Leu Trp Thr Met Asp Ser Asn Phe Gln 345 Arg Arg Tyr Glu Gln Leu Glu Asn Ser Met Lys Gln Leu Phe Leu Lys Ala Gln Lys Ile Val His Lys Leu Phe Ser Leu Ser Lys Arg Cys His Lys Gln Pro Leu Ile Ser Leu Pro Arg Gln Arg Thr Ser Thr Tyr Trp 385 Leu Thr Arg Ile Gln Ser Phe Leu Tyr Cys Asn Glu Asn Gly Leu Leu Gly Ser Phe Ser Glu Glu Thr His Ser Cys Thr Cys Pro Asn Asp Gln Val Val Cys Thr Ala Phe Leu Pro Cys Thr Val Gly Asp Ala Ser Ala 440 Cys Leu Thr Cys Ala Pro Asp Asn Arg Thr Arg Cys Gly Thr Cys Asn Thr Gly Tyr Met Leu Ser Gln Gly Leu Cys Lys Pro Glu Val Ala Glu Ser Thr Asp His Tyr Ile Gly Phe Glu Thr Asp Leu Gln Asp Leu Glu Met Lys Tyr Leu Leu Gln Lys Thr Asp Arg Ile Glu Val His Ala Ile Phe Ile Ser Asn Asp Met Arg Leu Asn Ser Trp Phe Asp Pro Ser 520 Trp Arg Lys Arg Met Leu Leu Thr Leu Lys Ser Asn Lys Tyr Lys Ser 535 Ser Leu Val His Met Ile Leu Gly Leu Ser Leu Gln Ile Cys Leu Thr Lys Asn Ser Thr Leu Glu Pro Val Leu Ala Val Tyr Val Asn Pro Phe 565 Gly Gly Ser His Ser Glu Ser Trp Phe Met Pro Val Asn Glu Asn Ser 585 Phe Pro Asp Trp Glu Arg Thr Lys Leu Asp Leu Pro Leu Gln Cys Tyr 595 600

Asn Trp Thr Leu Thr Leu Gly Asn Lys Trp Lys Thr Phe Phe Glu Thr

620

Val His Ile Tyr Leu Arg Ser Arg Ile Lys Ser Asn Gly Pro Asn Gly 625 630 635 640

Asn Glu Ser Ile Tyr Tyr Glu Pro Leu Glu Phe Ile Asp Pro Ser Arg 645 650 655

Asn Leu Gly Tyr Met Lys Ile Asn Asn Ile Gln Val Phe Gly Tyr Ser 660 665 670

Met His Phe Asp Pro Glu Ala Ile Arg Asp Leu Ile Leu Gln Leu Asp 675 680 685

Tyr Pro Tyr Thr Gln Gly Ser Gln Asp Ser Ala Leu Leu Gln Leu Leu 690 695 700

Glu Ile Arg Asp Arg Val Asn Lys Leu Ser Pro Pro Gly Gln Arg Arg 705 710 715 720

Leu Asp Leu Phe Ser Cys Leu Leu Arg His Arg Leu Lys Leu Ser Thr 725 730 735

Ser Glu Val Val Arg Ile Gln Ser Ala Leu Gln Ala Phe Asn Ala Lys 740 745 750

Leu Pro Asn Thr Met Asp Tyr Asp Thr Thr Lys Leu Cys Ser 755 760 765

<210> 36

<211> 208

<212> PRT

<213> Homo sapiens

<400> 36

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Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met 20 25 30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser 35 40 45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
50 55 60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
65 70 75 80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn 85 90 95

Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Leu
100 105 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile 115 120 125 Ser Thr Ser Thr Met Thr Val Thr His Asn Ser Ser Val Thr Ser Ala 130 135 140

Ala Ser Ser Val Thr Ile Thr Thr Met His Ser Glu Ala Lys Lys
145 150 155 160

Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr 165 170 175

Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser 180 185 190

Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile 195 200 205

<210> 37

<211> 605

<212> PRT

<213> Homo sapiens

<400> 37

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Leu Leu Leu Leu Val Gly Gly Ala Phe Leu Gly Ala Cys Val Ala 20 25 30

Gly Ser Asp Glu Pro Gly Pro Glu Gly Leu Thr Ser Thr Ser Leu Leu 35 40 45

Asp Leu Leu Pro Thr Gly Leu Glu Pro Leu Asp Ser Glu Glu Pro 50 55 60

Ser Glu Thr Met Gly Leu Gly Ala Gly Leu Gly Ala Pro Gly Ser Gly 65 70 75 80

Phe Pro Ser Glu Glu Asn Glu Glu Ser Arg Ile Leu Gln Pro Pro Gln 85 90 95

Tyr Phe Trp Glu Glu Glu Glu Leu Asn Asp Ser Ser Leu Asp Leu 100 105 110

Gly Pro Thr Ala Asp Tyr Val Phe Pro Asp Leu Thr Glu Lys Ala Gly
115 120 125

Ser Ile Glu Asp Thr Ser Gln Ala Gln Glu Leu Pro Asn Leu Pro Ser 130 135 140

Pro Leu Pro Lys Met Asn Leu Val Glu Pro Pro Trp His Met Pro Pro 145 150 155 160

Arg Glu Glu Glu Glu Glu Glu Glu Glu Glu Arg Glu Lys Glu
165 170 175

Glu Val Glu Lys Gln Glu Glu Glu Glu Glu Glu Leu Leu Pro Val Asn Gly Ser Gln Glu Glu Ala Lys Pro Gln Val Arg Asp Phe Ser Leu Thr Ser Ser Ser Gln Thr Pro Gly Ala Thr Lys Ser Arg His Glu Asp 215 Ser Gly Asp Gln Ala Ser Ser Gly Val Glu Val Glu Ser Ser Met Gly Pro Ser Leu Leu Pro Ser Val Thr Pro Thr Thr Val Thr Pro Gly 250 Asp Gln Asp Ser Thr Ser Gln Glu Ala Glu Ala Thr Val Leu Pro Ala Ala Gly Leu Gly Val Glu Phe Glu Ala Pro Gln Glu Ala Ser Glu Glu 280 Ala Thr Ala Gly Ala Ala Gly Leu Ser Gly Gln His Glu Glu Val Pro 295 Ala Leu Pro Ser Phe Pro Gln Thr Thr Ala Pro Ser Gly Ala Glu His 310 Pro Asp Glu Asp Pro Leu Gly Ser Arg Thr Ser Ala Ser Ser Pro Leu 325 Ala Pro Gly Asp Met Glu Leu Thr Pro Ser Ser Ala Thr Leu Gly Gln Glu Asp Leu Asn Gln Gln Leu Leu Glu Gly Gln Ala Ala Glu Ala Gln 355 Ser Arg Ile Pro Trp Asp Ser Thr Gln Val Ile Cys Lys Asp Trp Ser Asn Leu Ala Gly Lys Asn Tyr Ile Ile Leu Asn Met Thr Glu Asn Ile Asp Cys Glu Val Phe Arg Gln His Arg Gly Pro Gln Leu Leu Ala Leu Val Glu Glu Val Leu Pro Arg His Gly Ser Gly His His Gly Ala Trp His Ile Ser Leu Ser Lys Pro Ser Glu Lys Glu Gln His Leu Leu Met Thr Leu Val Gly Glu Gln Gly Val Val Pro Thr Gln Asp Val Leu Ser 455 Met Leu Gly Asp Ile Arg Arg Ser Leu Glu Glu Ile Gly Ile Gln Asn

Tyr Ser Thr Thr Ser Ser Cys Gln Ala Arg Ala Ser Gln Val Arg Ser

Met Ala Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu Leu Leu

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Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu Gly Glu Ala 35 40 45

Cys Gly Thr Val Gly Leu Leu Glu His Ser Phe Glu Ile Asp Asp 50 55 60

Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu Trp Asn Gln Gln Asp 65 70 75 80

Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu Ser Glu Glu Glu Arg Gly
85 90 95

Arg Leu Arg Asp Val Ala Ala Ser Tyr Leu Asp Cys Gly Ala Thr Arg 100 105 110

Ala Cys Gly Pro Leu Leu Cys Ala Thr Leu Pro Val Ser Leu Phe Lys 115 120 125

Asn Ile Asp Asp Thr Leu Lys Cys Val Asn Val Leu Lys Ser Tyr Ser 130 135 140

Phe Gln Gln Pro Lys Ala Thr Val Val Leu Ala Arg Arg Ser 145 150 155

<210> 40

<211> 58

<212> PRT

<213> Homo sapiens

<400> 40

Met Thr Lys Ala Leu Ile Pro Thr Pro Phe Phe Leu Ala Ala Met Trp

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Pro Leu Trp Gln His Ser Trp Ala Gln Thr Leu Arg Ser Gln Arg Gln 20 25 30

Glu Ala Asp Ala Trp Ala Lys Ala Gly Ala Gly Asn Ser Arg Gly Ser
35 40 45

Leu Ala Trp Arg Leu Leu Met Ser Ser Gly 50 55

<210> 41

<211> 432

<212> PRT

<213> Homo sapiens

<400> 41

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Leu Gly Ala Gly Glu Thr Pro Glu Ala Pro Pro Glu Ser Trp Thr
20 25 30

Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Ser Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe Arg Arg Lys Asn Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu 105 Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val 120 Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Ser 130 135 Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val Leu Met Asn Arg Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val Leu Cys Lys Gln 165 Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe Ala Ser Leu Ser Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Phe Val Ser Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val Ile Pro Val Met Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser Ser Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu 265 Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp 280 Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe 295 Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Glu 305 310 Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Glu

330

Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln 340 345 350

Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr 355 360 365

Ile Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu 370 375 380

Leu Tyr Gly His Thr Val Thr Val Gly Gly Leu Gly Val Ala Val 385 390 395 400

Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys 405 410 415

Gln Arg Gly Lys Lys Ala Val Pro Val Glu Ser Pro Val Gln Lys Val
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425
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<210> 42

<211> 131

<212> PRT

<213> Homo sapiens

<400> 42

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Phe Leu Ile Met Leu Val Leu Lys Leu Asp Glu Lys Ala Pro Trp Asn 20 25 30

Trp Phe Leu Ile Phe Ile Pro Val Trp Ile Phe Asp Thr Ile Leu Leu 35 40 45

Val Leu Leu Ile Val Lys Met Ala Gly Arg Cys Lys Ser Gly Phe Asp
50 55 60

Pro Arg His Gly Ser His Asn Ile Lys Lys Lys Ala Trp Tyr Leu Ile 65 70 75 80

Ala Met Leu Leu Lys Leu Ala Phe Cys Leu Ala Leu Cys Ala Lys Leu 85 90 95

Glu Gln Phe Thr Thr Met Asn Leu Ser Tyr Val Phe Ile Pro Leu Trp 100 105 110

Ala Leu Leu Ala Gly Ala Leu Thr Glu Leu Gly Tyr Asn Val Phe Phe 115 120 125

Val Arg Asp

130

<210> 43

<211> 215

<212> PRT

<213> Homo sapiens

<400> 43

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Trp His Cys Leu Val Leu Ala Arg Ala Ser Ala Asp Ser Ala Ser Leu 20 25 30

Pro Thr Ile Ser His Leu Gly Val Lys Pro Leu Ser Val Gly Trp Gly 35 40 45

Ala Pro Ser Thr Leu Pro Val Ser Pro Cys Gly Gly Lys Pro Ala Ala 50 55 60

Pro Thr Ser Ala Ser Pro Ala Ala Ala Pro Leu Arg Phe Trp Arg Pro 65 70 75 80

Gly Ala Ser Gly Gly Gly Ala Gly Gly Thr Arg Arg Leu Ala Leu Cys 85 90 95

Arg Leu Val Thr Ala Arg Thr Thr Leu Ala Thr Gly Thr Pro Gly Leu 100 105 110

Ser Ala Arg Pro Arg Gln Arg Pro Cys Leu Leu Pro Val Leu Pro Arg 115 120 125

Arg Pro Ala Glu Leu Ser Val Ser Leu Glu Pro Ser Pro Gly Ser Ser 130 135 140

Gly Arg Gly Phe Leu Cys Leu Pro Phe Cys Lys Arg Asp Ala Asp Thr 145 150 155 160

Ser Leu Gly Gln Thr Leu Thr Ser Ser Cys Ser Leu Ser Ser Ile Leu 165 170 175

Val Gly Gly Thr Leu Arg Pro Arg Cys Ser Cys Pro Pro Phe Thr Gln 180 185 190

Arg Ser Ala Phe His Leu Arg Thr Pro His Asn Gln Tyr His His Gly
195 200 205

Ser Thr Ser Leu Ala Ser His 210 215

<210> 44

<211> 61

<212> PRT

<213> Homo sapiens

<400> 44

Met Lys Ser Ala Leu His Arg Asp Ile Cys Ile Leu Met Leu Thr Ala

1 5 10 15

Ala Leu Phe Thr Ile Ala Lys Thr Glu Lys Gln His Lys Cys Pro Ser 20 25 30 Ile Asp Glu Gln Ile Asn Asn Leu Gln Tyr Ile Cys Thr Met Glu Tyr 35 40 45

His Ser Ala Leu Gln Lys Glu Met Leu Leu Tyr Leu Gln 50 55 60

<210> 45

<211> 125

<212> PRT

<213> Homo sapiens

<400> 45

Met Ile Pro Phe Pro Ala Cys Leu Leu Leu Ala Leu Phe Pro Lys Val 1 5 10 15

Gln Val Gly Arg Thr Thr Ser Ala Tyr Phe Ser Thr Ile Pro Ser Met 20 25 30

Pro Ala Arg Ser Gln Ile Asn Leu Pro Val Glu Ser Gly Ser Ala Leu  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Leu Glu Pro Arg Gly Lys Gly Arg Val Glu Arg Val Cys Pro Val Ala
50 55 60

Trp Ser Ser Met Val Ala Ser Cys Leu Pro Ser Pro Ser Ser Gly Gly 65 70 75 80

Pro Glu Gly Ser Leu Gly Thr Val Pro Gln Ile Leu Thr Gln Gly Pro 85 90 95

Ala Trp Gly Arg Asp Gly Cys Arg Gln Asn Ala Leu Tyr Arg Asp Phe 100 105 110

Leu Leu Cly Arg Cys Val Ser Pro Thr Ile Cys Leu 115 120 125

<210> 46

<211> 71

<212> PRT

<213> Homo sapiens

<400> 46

Met Leu Val Ala Ala Ile Val Phe Ile Ser Phe Gly Val Val Ala Ala 1 5 10 15

Phe Cys Cys Ala Ile Val Asp Gly Val Phe Ala Ala Gln His Ile Glu 20 25 30

Pro Lys Ala Pro His His Gly Lys Met Pro Val Tyr Ser Ser Gly Val

Gly Tyr Leu Tyr Asp Val Tyr Gln Thr Glu Val Ser Arg Ser Thr Glu
50 55 60

Ile His Val Gly Leu Leu Asn

70 65

<210> 47

<211> 69

<212> PRT

<213> Homo sapiens

<400> 47

Met Lys Ala Val Val Leu Leu Lys Ala Phe Ser Phe Ser Leu Cys Ser

Ala Ile Ser Pro Val Thr Pro Gly Phe Arg Gln Thr Ile Asn Val Leu

Asp Thr Val Ala Phe Ser Ala Phe Phe Ile Tyr Leu Phe Thr Val Thr 35

Ala Ser Ile Asn Phe Tyr Ala Tyr Phe Ser Ser Phe Leu Ala Gly Ala

Pro Phe Ile Lys Ile 65

<210> 48

<211> 85

<212> PRT

<213> Homo sapiens

<400> 48

Met Ala Ala Gly Gly Cys Leu Leu Leu Ala Phe Phe Pro Leu Ser

Arg Gly Ser His Phe His Leu Gln Lys Arg Ala Leu Ala Glu Ala Ser

Phe Glu Ala Thr Leu Cys Glu Leu Phe Val Ile Glu Thr Ala Ser Lys 40

Gly Thr Leu Leu Ile Ile Thr Ile Arg His Leu Val Thr Tyr Ile Ile

Val Ile Phe Lys Cys His Met Leu Lys Asn Glu Met Asn Ser Ser Ile

Lys Pro His Phe Gln

<210> 49

<211> 150

<212> PRT

<213> Homo sapiens

Met Val Met Ile Leu Phe Val Ala Phe Ile Thr Cys Trp Glu Glu Val 5

Thr Thr Leu Val Gln Ala Ile Arg Ile Thr Ser Tyr Met Asn Glu Thr 20 25 30

Ile Leu Tyr Phe Pro Phe Ser Ser His Ser Ser Tyr Thr Val Arg Ser 35 40 45

Lys Lys Ile Phe Leu Ser Lys Leu Ile Val Cys Phe Leu Ser Thr Trp
50 55 60

Leu Pro Phe Val Leu Leu Gln Val Ile Ile Val Leu Leu Lys Val Gln 65 70 75 80

Ile Pro Ala Tyr Ile Glu Met Asn Ile Pro Trp Leu Tyr Phe Val Asn 85 90 95

Ser Phe Leu Ile Ala Thr Val Tyr Trp Phe Asn Cys His Lys Leu Asn 100 105 110

Leu Lys Asp Ile Gly Leu Pro Leu Asp Pro Phe Val Asn Trp Lys Cys
115 120 125

Cys Phe Ile Pro Leu Thr Ile Pro Asn Leu Glu Gln Ile Glu Lys Pro 130 135 140

<210> 50

<211> 298

<212> PRT

<213> Homo sapiens

<400> 50

Met Lys Thr Leu Gln Ser Thr Leu Leu Leu Leu Leu Leu Val Pro Leu 1 5 10 15

Ile Lys Pro Ala Pro Pro Thr Gln Gln Asp Ser Arg Ile Ile Tyr Asp
20 25 30

Tyr Gly Thr Asp Asn Phe Glu Glu Ser Ile Phe Ser Gln Asp Tyr Glu 35 40 45

Asp Lys Tyr Leu Asp Gly Lys Asn Ile Lys Glu Lys Glu Thr Val Ile 50 55 60

Ile Pro Asn Glu Lys Ser Leu Gln Leu Gln Lys Asp Glu Ala Ile Thr 65 70 75 80

Pro Leu Pro Pro Lys Lys Glu Asn Asp Glu Met Pro Thr Cys Leu Leu 85 90 95

Cys Val Cys Leu Ser Gly Ser Val Tyr Cys Glu Glu Val Asp Ile Asp 100 105 110

Ala Val Pro Pro Leu Pro Lys Glu Ser Ala Tyr Leu Tyr Ala Arg Phe 115 120 125 Asn Lys Ile Lys Lys Leu Thr Ala Lys Asp Phe Ala Asp Ile Pro Asn 130 135 140

Leu Arg Arg Leu Asp Phe Thr Gly Asn Leu Ile Glu Asp Ile Glu Asp 145 150 155 160

Gly Thr Phe Ser Lys Leu Ser Leu Leu Glu Glu Leu Ser Leu Ala Glu 165 170 175

Asn Gln Leu Lys Leu Pro Val Leu Pro Pro Lys Leu Thr Leu Phe 180 185 190

Asn Ala Lys Tyr Asn Lys Ile Lys Ser Arg Gly Ile Lys Ala Asn Ala 195 200 205

Phe Lys Lys Leu Asn Asn Leu Thr Phe Leu Tyr Leu Asp His Asn Ala 210 215 220

Leu Glu Ser Val Pro Leu Asn Leu Pro Glu Ser Leu Arg Val Ile His 225 230 235 240

Leu Gln Phe Asn Asn Ile Ala Ser Ile Thr Asp Asp Thr Phe Cys Lys
245 250 255

Ala Asn Asp Thr Ser Tyr Ile Arg Asp Arg Ile Glu Glu Ile Arg Leu 260 265 270

Glu Gly Asn Pro Ile Val Leu Gly Lys His Pro Asn Ser Phe Ile Cys 275 280 285

Leu Lys Arg Leu Pro Ile Gly Ser Tyr Phe 290 295

<210> 51

<211> 57

<212> PRT

<213> Homo sapiens

<400> 51

Met Leu Asp Leu Ser Pro Ser Leu Thr Leu Lys Phe Cys Phe Leu His
1 5 10 15

Leu Val Phe Leu Pro Phe Lys Val Tyr Cys Gln Leu Leu Gln Glu Leu 20 25 30

Leu Ser Lys Pro Val Ser Lys Leu Pro Leu Thr Pro Gln Cys Gln Ser

Trp Ala Arg Pro Leu Gly Asp Leu Glu 50 55

<sup>&</sup>lt;210> 52

<sup>&</sup>lt;211> 145

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<400> 52

Met Leu Arg Thr Leu Val Leu Lys Gln Thr Leu Asp Leu Leu Pro 1 5 10 15

Leu Leu Glu Ala Leu Leu Val Leu Gly Val Pro Gln His Leu Glu Leu 20 25 30

Gln Pro Leu Pro Val Gln Val Ser Leu Leu Leu Leu Gln Leu Leu Asp 35 40 45

Leu Gly Ser Leu Lys Ser His Arg Leu His His Phe His Ser Lys Ala 50 55 60

Leu Gln Leu Pro Val Leu Asp His Leu Asp Phe Gln Asp Phe Gln Leu 65 70 75 80

Pro Trp Gln Gln Val Leu Ser Glu Leu Pro Val Ala Pro Ala Phe Gly 85 90 95

Gly Gly Ser Ser Val Ala Gly Phe Gly Ser Pro Gly Leu Thr Phe Ser 100 105 110

His Trp Leu Phe Leu Ser His Pro Val Asp Thr Phe Gly Asn Ser Gln
115 120 125

Ala Tyr Pro Thr Ser Leu Ser Ala Leu Gln Ala Ser Ile Asn Cys Asn 130 135 140

Arg 145

<210> 53

<211> 139

<212> PRT

<213> Homo sapiens

<400> 53

Met Lys Thr Leu Leu Leu Leu Val Gly Leu Leu Leu Thr Trp Glu Asn 1 5 10 15

Gly Arg Val Leu Gly Asp Gln Met Val Ser Asp Thr Glu Leu Gln Glu
20 25 30

Met Ser Thr Glu Gly Ser Lys Tyr Ile Asn Arg Glu Ile Lys Asn Ala 35 40 45

Leu Lys Gly Val Lys Gln Ile Lys Thr Leu Ile Glu Gln Thr Asn Glu
50 55 60

Glu Arg Lys Ser Leu Leu Thr Asn Leu Glu Glu Ala Lys Lys Lys 65 70 75 80

Glu Asp Ala Leu Asn Asp Thr Lys Asp Ser Glu Met Lys Leu Lys Ala 85 90 95

Ser Gln Gly Val Cys Asn Asp Thr Met Met Ala Leu Trp Glu Glu Cys

100 105 110

Lys Pro Cys Leu Lys Gln Thr Trp Gly Lys Gly Leu Arg Pro Ser Leu 115 120 125

Gln Lys Gln His Arg Ala Gly Trp Pro Pro Gly 130 135

<210> 54

<211> 432

<212> PRT

<213> Homo sapiens

<400> 54

Met Asp Ala Arg Trp Trp Ala Val Val Leu Ala Ala Phe Pro Ser

1 5 10 15

Leu Gly Ala Gly Gly Glu Thr Pro Glu Ala Pro Pro Glu Ser Trp Thr 20 25 30

Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Ser 35 40 45

Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe Arg Arg Lys Asn 50 55 60

Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys 65 70 75 80

Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro 85 90 95

Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu 100 105 110

Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val 115 120 125

Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Ser 130 140

Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val Leu Met Asn Arg 145 150 155 160

Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val Leu Cys Lys Gln 165 170 175

Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe Ala Ser Leu Ser 180 185 190

Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Phe Val Ser 195 200 205

Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val Ile Pro Val Met 210 215 220

Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr

225 230 235 240 Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser 245 250 Ser Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu 265 Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp 280 Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe 295 Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Glu 310 Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Glu 325 Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr 355 Ile Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val 390 Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys Gln Arg Gly Lys Lys Ala Val Pro Val Glu Ser Pro Val Gln Lys Val 425

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<210> 55
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<400> 55

Met Arg Met Ser Leu Ala Gln Arg Val Leu Leu Thr Trp Leu Phe Thr 1 5 10 15

Leu Leu Phe Leu Ile Met Leu Val Leu Lys Leu Asp Glu Lys Ala Pro 20 25 30

Trp Asn Trp Phe Leu Ile Phe Ile Pro Val Trp Ile Phe Asp Thr Ile 35 40 45

Leu Leu Val Leu Leu Ile Val Lys Met Ala Gly Arg Cys Lys Ser Gly

<sup>&</sup>lt;211> 133

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

|  |              | 50                               |            |            |           |           | 55        |            |            |           |           | 60        |            |            |           |           |
|--|--------------|----------------------------------|------------|------------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|------------|------------|-----------|-----------|
|  | Phe<br>65    | Asp                              | Pro        | Arg        | His       | Gly<br>70 | Ser       | His        | Asn        | Ile       | Lys<br>75 | Lys       | Lys        | Ala        | Trp       | Tyr<br>80 |
|  | Leu          | Ile                              | Ala        | Met        | Leu<br>85 | Leu       | Lys       | Leu        | Ala        | Phe<br>90 | Cys       | Leu       | Ala        | Leu        | Cys<br>95 | Ala       |
|  | Lys          | Leu                              | Glu        | Gln<br>100 | Phe       | Thr       | Thr       | Met        | Asn<br>105 | Leu       | Ser       | Tyr       | Val        | Phe<br>110 | Ile       | Pro       |
|  | Leu          | Trp                              | Ala<br>115 | Leu        | Leu       | Ala       | Gly       | Ala<br>120 | Leu        | Thr       | Glu       | Leu       | Gly<br>125 | Tyr        | Asn       | Val       |
|  | Phe          | Phe<br>130                       | Val        | Arg        | Asp       |           |           |            |            |           |           |           |            |            |           |           |
|  | <211<br><212 | )> 56<br>L> 77<br>2> PF<br>B> Ho | 7<br>RT    | sapie      | ens       |           |           |            |            |           |           |           |            |            |           |           |
|  |              | )> 56<br>Ala                     |            | Cys        | Gln<br>5  | Phe       | Phe       | Leu        | Gln        | Gly<br>10 | Arg       | Cys       | Arg        | Phe        | Gly<br>15 | Asp       |
|  | Arg          | Cys                              | Trp        | Asn<br>20  | Glu       | His       | Pro       | Gly        | Ala<br>25  | Arg       | Gly       | Ala       | Gly        | Gly<br>30  | Gly       | Arg       |
|  | Gln          | Gln                              | Pro<br>35  | Gln        | Gln       | Gln       | Pro       | Ser<br>40  | Gly        | Asn       | Asn       | Arg       | Arg<br>45  | Gly        | Trp       | Asn       |
|  | Thr          | Thr<br>50                        | Ser        | Gln        | Arg       | Tyr       | Ser<br>55 | Asn        | Val        | Ile       | Gln       | Pro<br>60 | Ser        | Ser        | Phe       | Ser       |
|  | Lys<br>65    | Ser                              | Thr        | Pro        | Trp       | Gly<br>70 | Gly       | Ser        | Arg        | Asp       | Gln<br>75 | Glu       | Thr        |            |           |           |
| <210> 57<br><211> 247<br><212> PRT<br><213> Homo sapiens |              |                                  |            |            |           |           |           |            |            |           |           |           |            |            |           |           |
|  |              | > 57                             |            |            |           |           |           |            |            |           |           |           |            |            |           |           |
|  | Asn<br>1     | Arg                              | Pro        | Gly        | Gly<br>5  | Arg       | Val       | Tyr        | Ala        | Arg<br>10 | Val       | Cys       | Arg        | Ser        | Ser<br>15 | Thr       |
|  | Gly          | Leu                              | Val        | Gly<br>20  | His       | Gln       | Val       | Glu        | Glu<br>25  | Phe       | Leu       | Asn       | Gln        | Ser<br>30  | Ser       | Pro       |
|  | Phe          | Tyr                              |            | Trp        | Ile       | Asn       | Gly       |            | Arg        | Ile       | Asp       | Ser_      |            | Leu        | Glu       | Asn       |
|  |              |                                  | 35         |            |           |           |           | 40         |            |           |           |           | 45         |            |           |           |

Asp Arg Gln Gln Thr His Ala Leu Asp Val Met Gln Asp Ser Phe Asp 50 55 60

Arg Ala Ser Ser Ile Met Asp Glu Leu Phe Gln Asp Arg Phe Phe Thr 65 70 75 80

Arg Glu Ala Gln Asp Pro Phe His Phe Ser Pro Phe Ser Ser Phe Gln 85 90 95

Arg Arg Pro Phe Phe Phe Asn Ile Lys His Arg Phe Ala Arg Asn Ile 100 105 110

Met Pro Phe Pro Gly Tyr Gln Pro Leu Asn Phe His Asp Met Phe Gln 115 120 125

Pro Phe Phe Asp Met Ile His Gln Ala Gln Gln Ala Met Asp Val Asn 130 135 140

Leu His Arg Leu Pro His Phe Pro Met Glu Phe Thr Glu Glu Asp Asn 145 150 155 160

Gln Asp Gly Ala Val Cys Lys Glu Ile Arg His Asn Ser Thr Gly Cys 165 170 175

Leu Lys Met Lys Asp Gln Cys Glu Lys Cys Arg Glu Ile Leu Ser Val 180 185 190

Asp Cys Ser Ser Asn Asn Pro Ala Gln Val Gln Leu Arg Gln Glu Leu 195 200 205

Asn Asn Ser Leu Gln Ile Ala Glu Lys Phe Thr Lys Leu Val Arg Arg 210 215 220

Ala Ala Ala Val Leu Pro Gly Glu Asp Val Gln His Val Leu Pro Ala 225 230 235 240

Glu Ala Ala Gly Arg Ala Val 245

<210> 58

<211> 85

<212> PRT

<213> Homo sapiens

<400> 58

Met Ala Val Ala Lys Asp Met Trp Gln Glu Cys Asn Pro Asp Lys Lys 1 5  $\cdot 10$  15

Val Trp Tyr Pro Glu Leu Lys Pro Val Val Val Gly Arg Lys Arg Gln
20 25 30

Gly Cys Ile His Met Val Asn Cys Ser Glu Val Arg Lys Glu Glu Leu 35 40 45

Gly Ile Thr Glu Phe Leu Ala Leu Ser Gly Gln Met Thr Val Pro Leu
50 55 60

Thr Lys Ile Gly Arg Thr Arg Ala Val Gly Lys Met Ser Ser Leu 65 70 75 80

Tyr Met Leu Leu Phe 85

<210> 59

<211> 468

<212> PRT

<213> Homo sapiens

<400> 59

His Glu Gly Ser Leu Ala Ala Pro Gly Gly Gly Gly Ser Ala Gly
1 5 10 15

Gly Ala Arg Pro Gly Asp Ser His Ser Pro Val Pro Pro Pro Pro His 20 25 30

Ala Ala Trp Thr Met Asp Ala Arg Trp Trp Ala Val Val Leu Ala 35 40 45

Ala Phe Pro Ser Leu Gly Ala Gly Gly Glu Thr Pro Glu Ala Pro Pro 50 55 60

Glu Ser Trp Thr Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala 65 70 75 80

Gly Tyr Ala Ser Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe 85 90 95

Arg Arg Lys Asn Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu 100 105 110

Val Lys Ala Cys Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val 115 120 125

Pro Leu Ala Pro Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln 130 135 140

Ala Leu Lys Leu Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu 145 150 155 160

Thr Trp Gly Val Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala 165 170 175

Thr Ala Thr Ser Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val 180 185 190

Leu Met Asn Arg Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val 195 200 205

Leu Cys Lys Gln Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe 210 215 220

Ala Ser Leu-Ser Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu 225 230 235 240

Lys Phe Val Ser Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val 245 250 255

Ile Pro Val Met Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met 285 Phe Leu Leu Ser Ser Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe 310 315 Thr Ser Asn Trp Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly 340 Ser Leu Leu Glu Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Glu Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser 370 Ala Cys Gly Gln Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr Ile Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys Gln Arg Gly Lys Lys Ala Val Pro Val Glu Ser Pro Val Gln Lys Val 465 <210> 60 <211> 133 <212> PRT <213> Homo sapiens <400> 60 Met Arg Met Ser Leu Ala Gln Arg Val Leu Leu Thr Trp Leu Phe Thr

Trp Asn Trp Phe Leu Ile Phe Ile Pro Val Trp Ile Phe Asp Thr Ile 35 40 45

Leu Leu Phe Leu Ile Met Leu Val Leu Lys Leu Asp Glu Lys Ala Pro

Leu Leu Val Leu Leu Ile Val Lys Met Ala Gly Arg Cys Lys Ser Gly 50 55 60

Phe Asp Pro Arg His Gly Ser His Asn Ile Lys Lys Lys Ala Trp Tyr 65 70 75 80

Leu Ile Ala Met Leu Leu Lys Leu Ala Phe Cys Leu Ala Leu Cys Ala 85 90 95

Lys Leu Glu Gln Phe Thr Thr Met Asn Leu Ser Tyr Val Phe Ile Pro 100 105 110

Leu Trp Ala Leu Leu Ala Gly Ala Leu Thr Glu Leu Gly Tyr Asn Val 115 120 125

Phe Phe Val Arg Asp 130

<210> 61

<211> 75

<212> PRT

<213> Homo sapiens

<400> 61

Met Phe Leu Pro Thr Phe Tyr Pro Glu Lys Arg Phe Ser Pro Lys Asp 1 5 10 15

Ser Ala Gln Ser Val Pro Pro Trp Glu His Leu Pro Gly Gln Pro Leu 20 25 30

Arg Ala His Trp Ala Ser Leu His His Thr Asn Thr Pro Val Pro His
35 40 45

Trp Leu Ser Asp Tyr Met Ala Val Cys Leu Val Lys Lys Lys Asn Gln 50 60

Lys Lys Lys Lys Gln Lys Lys Lys Lys Lys 65 70 75

<210> 62

<211> 93

<212> PRT

<213> Homo sapiens

<400> 62

Val Gly Thr Ala Ile Met Glu Asn Ser Met Ala Val Pro Leu Lys Thr 1 5 10 15

Glu Leu Pro Tyr Asp Pro Ala Ile Pro Leu Leu Ser Ile Pro Lys Glu 20 25 30

Met Lys Ser Ala Leu His Arg Asp Ile Cys Ile Leu Met Leu Thr Ala 35 40 45

Ala Leu Phe Thr Ile Ala Lys Thr Glu Lys Gln His Lys Cys Pro Ser 50 60

Ile Asp Glu Gln Ile Asn Asn Leu Gln Tyr Ile Cys Thr Met Glu Tyr 65 70 75 80

His Ser Ala Leu Gln Lys Glu Met Leu Leu Tyr Leu Gln 85 90

<210> 63

<211> 150

<212> PRT

<213> Homo sapiens

<400> 63

Ala Arg Gly Pro Leu Gly Leu Leu Asp Pro Ala Glu Gly Leu Ser Arg

1 5 10 15

Arg Lys Lys Thr Ser Leu Trp Phe Val Gly Ser Leu Leu Leu Val Ser 20 25 30

Val Leu Ile Val Thr Val Gly Leu Ala Ala Thr Thr Arg Thr Glu Asn 35 40 45

Val Thr Val Gly Gly Tyr Tyr Pro Gly Ile Ile Leu Gly Phe Gly Ser 50 60

Phe Leu Gly Ile Ile Gly Ile Asn Leu Val Glu Asn Arg Arg Gln Met 65 70 75 80

Leu Val Ala Ala Ile Val Phe Ile Ser Phe Gly Val Val Ala Ala Phe 85 90 95

Cys Cys Ala Ile Val Asp Gly Val Phe Ala Ala Gln His Ile Glu Pro 100 105 110

Lys Ala Pro His His Gly Lys Met Pro Val Tyr Ser Ser Gly Val Gly
115 120 125

Tyr Leu Tyr Asp Val Tyr Gln Thr Glu Val Ser Arg Ser Thr Glu Ile 130 135 140

His Val Gly Leu Leu Asn

<210> 64

<211> 192

<212> PRT

<213> Homo sapiens

<400> 64

Thr Arg Pro Val Leu Ala Tyr Val Leu Gly Asp Pro Ala Ile Tyr Gln
1 5 10 15

Ser Leu Lys Ala Gln Asn Ala Tyr Ser Arg His Cys Pro Phe Tyr Val 20 25 30

Ser Ile Gln Ser Tyr Trp Leu Ser Phe Phe Met Val Met Ile Leu Phe

|   |            |            |            |            |            |            |            |            | • •        |            |            |            |            |            |            |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|   |            | 35         | 5          |            |            |            | 40         |            |            |            |            | 45         |            |            |            |
| Va]   | Ala<br>50  | . Phe      | : Ile      | Thr        | Cys        | Trp<br>55  |            | Glu        | Val        | Thr        | Thr<br>60  |            | Val        | . Gln      | Ala        |
| Ile<br>65                                       | e Arg      | Ile        | thr        | Ser        | Tyr<br>70  |            | Asn        | Glu        | Thr        | Ile<br>75  | Leu        | Tyr        | Phe        | Pro        | Phe<br>80  |
| Ser   | Ser        | His        | Ser        | Ser<br>85  |            | Thr        | · Val      | Arg        | Ser<br>90  |            | Lys        | Ile        | Phe        | Leu<br>95  |            |
| Lys   | Leu        | Ile        | Val<br>100 | Cys        | Phe        | Leu        | Ser        | Thr<br>105 |            | Leu        | Pro        | Phe        | Val<br>110 |            | Let        |
| Gln   | Val        | Ile<br>115 | Ile        | Val        | Leu        | Leu        | Lys<br>120 | Val        | Gln        | Ile        | Pro        | Ala<br>125 |            | Ile        | Glu        |
| Met   | Asn<br>130 | Ile        | Pro        | Trp        | Leu        | Tyr<br>135 | Phe        | Val        | Asn        | Ser        | Phe<br>140 | Leu        | Ile        | Ala        | Thr        |
| Val<br>145                                      | Tyr        | Trp        | Phe        | Asn        | Cys<br>150 | His        | Lys        | Leu        | Asn        | Leu<br>155 | Lys        | Asp        | Ile        | Gly        | Leu<br>160 |
| Pro   | Leu        | Asp        | Pro        | Phe<br>165 | Val        | Asn        | Trp        | Lys        | Cys<br>170 | Cys        | Phe        | Ile        | Pro        | Leu<br>175 | Thr        |
| Ile   | Pro        | Asn        | Leu<br>180 | Glu        | Gln        | Ile        | Glu        | Lys<br>185 | Pro        | Ile        | Ser        | Ile        | Met<br>190 | Ile        | Суя        |
|   |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| <210> 65 <211> 269 <212> PRT <213> Homo sapiens |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| - 4.0   | 0> 65      | -          |            |            |            |            |            |            |            |            |            |            |            |            |            |
|   | Lys        |            | Asn        | Ile<br>5   | Ser        | Gly        | Phe        | Thr        | Asp<br>10  | Ile        | Ser        | Pro        | Glu        | Glu<br>15  | Leu        |
| Arg   | Leu        | Glu        | Tyr<br>20  | His        | Asn        | Phe        | Leu        | Thr<br>25  | Ser        | Asn        | Asn        | Leu        | Gln<br>30  | Ser        | Tyr        |
| Leu   | Asn        | Ser<br>35  | Val        | Gln        | Arg        | Leu        | Ile<br>40  | Asn        | Gln        | Trp        | Arg        | Asn<br>45  | Arg        | Val        | Asn        |
| Glu   | Leu<br>50  | Lys        | Ser        | Leu        | Asn        | Ile<br>55  | Ser        | Thr        | Lys        | Val        | Ala<br>60  | Leu        | Leu        | Ser        | Asp        |
| Val<br>65                                       | Lys        | Asp        | Gly        | Val        | Asn<br>70  | Pro        | Ala        | Ala        | Pro        | Ala<br>75  | Phe        | Gly        | Phe        | Gly        | Ser<br>80  |
| Ser   | Gln        | Ala        | Ala        | Thr        | Phe        | Met        | Ser        | Pro        | Gly        | Phe        | Pro        | Val        | Asn        | Asn        | Ser        |

Ser Ser Asp Asn Ala Gln Asn Phe Ser Phe Lys Thr Asn Ser Gly Phe

90

| Arg<br>65            | Val          | Asn             | Glu        | Leu        | Lys<br>70  | Ser        |            | Asn        |            |            |            | Lys        |            |            |            |
|----------------------|--------------|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Gln                  | Ser<br>50    | Tyr             | Leu        | Asn        | Ser        | Val<br>55  | Gln        | Arg        | Leu        | Ile        | Asn<br>60  | Gln        | Trp        | Arg        | Asn        |
| Glu                  | Glu          | Leu<br>35       | Arg        | Leu        | Glu        | Tyr        | His<br>40  | Asn        | Phe        | Leu        | Thr        | Ser<br>45  | Asn        | Asn        | Leu        |
| Ala                  | Glu          | Ile             | Lys<br>20  | Lys        | Pro        | Asn        | Ile        | Ser<br>25  | Gly        | Phe        | Thr        | Asp        | Ile<br>30  | Ser        | Pro        |
|                      | )> 66<br>Ser |                 | Ser        | His<br>5   | Pro        | Val        | Ser        | Pro        | Asn<br>10  | Pro        | His        | His        | Gly        | Gly<br>15  |            |
| <211<br><212<br><213 |              | 00<br>TS<br>Omo | sapie      | ens        |            |            |            |            |            |            |            |            |            |            |            |
| Glu                  | Gln          | Phe             | Gln<br>260 | Ser        | Lys        | Lys        | Phe        | Thr<br>265 | Leu        | Gly        | Lys        | Ile        |            |            |            |
| Asp                  | Asn          | Val             | Leu        | Phe<br>245 | Thr        | Pro        | Arg        | Asn        | Lys<br>250 | Leu        | Thr        | Val        | Glu        | Glu<br>255 | Leu        |
| Ser<br>225           | Ser          | Ile             | Ser        | Thr        | Ser<br>230 | Leu        | Ser        | Ala        | Ser        | Ser<br>235 | Ser        | Ile        | Ile        | Ala        | Thr<br>240 |
| His                  | Ser<br>210   | His             | Thr        | Ala        | Phe        | Ser<br>215 | Lys        | Pro        | Ser        | Ser        | Asp<br>220 | Thr        | Phe        | Gly        | Asr        |
| Ala                  | Phe          | Gly<br>195      | Gly        | Gly        | Ser        | Ser        | Val<br>200 | Ala        | Gly        | Phe        | Gly        | Ser<br>205 | Pro        | Gly        | Sei        |
| Leu                  | Pro          | Ala             | Ser<br>180 | Leu        | Ala        | Thr        | Gly        | Pro<br>185 | Val        | Arg        | Ala        | Pro        | Val<br>190 | Ala        | Pro        |
| Phe                  | Lys          | Ser             | Pro        | Ala<br>165 | Ala        | Ser        | Ser        | Phe        | Gly<br>170 |            | Pro        | Gly        | Phe        | Ser<br>175 | Gly        |
| Ala<br>145           | Phe          | Gly             | Phe        | Gly        | Lys<br>150 | Pro        | Glu        | Val        | Thr        | Ser<br>155 |            | Ala        | Ser        | Phe        | Se:        |
| Phe                  | Gly<br>130   | Ala             | Ala        | Ala        | Ser        | Thr<br>135 |            | Ser        | Gly        | Ile        | Ser<br>140 | Thr        | Ser        | Ala        | Pro        |
| Ala                  | Ala          | Ala<br>115      |            | Ser        | Gly        | Ser        | Pro<br>120 | Ala        | Gly        | Phe        | Gly        | Ser<br>125 | Ser        | Pro        | Ala        |
|                      | •            |                 | 100        |            |            |            |            | 105        |            |            |            |            | 110        |            |            |

Phe Gly Ser Ser Gln Ala Ala Thr Phe Met Ser Pro Gly Phe Pro Val

100 105 110 Asn Asn Ser Ser Ser Asp Asn Ala Gln Asn Phe Ser Phe Lys Thr Asn 115 120 Ser Gly Phe Ala Ala Ala Ser Ser Gly Ser Pro Ala Gly Phe Gly Ser Ser Pro Ala Phe Gly Ala Ala Ser Thr Ser Ser Gly Ile Ser Thr Ser Ala Pro Ala Phe Gly Phe Gly Lys Pro Glu Val Thr Ser Ala Ala 170 Ser Phe Ser Phe Lys Ser Pro Ala Ala Ser Ser Phe Gly Ser Pro Gly 185 Phe Ser Gly Leu Pro Ala Ser Leu Ala Thr Gly Pro Val Arg Ala Pro 195 200 Val Ala Pro Ala Phe Gly Gly Gly Ser Ser Val Ala Gly Phe Gly Ser 215 Pro Gly Ser His Ser His Thr Ala Phe Ser Lys Pro Ser Ser Asp Thr 225 230 235 Phe Gly Asn Ser Ser Ile Ser Thr Ser Leu Ser Ala Ser Ser Ile 245 Ile Ala Thr Asp Asn Val Leu Phe Thr Pro Arg Asn Lys Leu Thr Val 265 Glu Glu Leu Glu Gln Phe Gln Ser Lys Lys Phe Thr Leu Gly Lys Ile Pro Leu Lys Pro Pro Pro Leu Glu Leu Leu Asn Val 295 <210> 67 <211> 365 <212> PRT <213> Homo sapiens <400> 67 Arg Arg Pro Pro Ser Ala Thr Pro Ser Gln Trp Pro Phe Val Asn Ser Ser Phe Lys Ala Gly Ala Ala Leu Glu Ile Gly Ala Gly Thr Asn Ile Pro Val Leu Gly Val Gln Glu Glu Asp Gly Ser Asn Arg Ser Ser Ser 35 40 Leu Gln Val Ile Ile Asp Val Asp Gly Ile Gln Leu Ala Arg Asp Ile 50 55

Pro Met Ser Ser His Pro Val Ser Pro Asn Pro His His Gly Gly

| 65         |            |            |            |            | 70         |            |            |            |            | 75         |            |            |            |            | 80         |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Ala        | Ala        | Glu        | Ile        | Lys<br>85  | Lys        | Pro        | Asn        | Ile        | Ser<br>90  | Gly        | Phe        | Thr        | Asp        | Ile<br>95  | Ser        |
| Pro        | Glu        | Glu        | Leu<br>100 | Arg        | Leu        | Glu        | Tyr        | His<br>105 | Asn        | Phe        | Leu        | Thr        | Ser<br>110 | Asn        | Asn        |
| Leu        | Gln        | Ser<br>115 | Tyr        | Leu        | Asn        | Ser        | Val<br>120 | Gln        | Arg        | Leu        | Ile        | Asn<br>125 | Gln        | Trp        | Arg        |
| Asn        | Arg<br>130 | Val        | Asn        | Glu        | Leu        | Lys<br>135 | Ser        | Leu        | Asn        | Ile        | Ser<br>140 | Thr        | Lys        | Val        | Ala        |
| Leu<br>145 | Leu        | Ser        | Asp        | Val        | Lys<br>150 | Asp        | Gly        | Val        | Asn        | Pro<br>155 | Ala        | Ala        | Pro        | Ala        | Phe<br>160 |
| Gly        | Phe        | Gly        | Ser        | Ser<br>165 | Gln        | Ala        | Ala        | Thr        | Phe<br>170 | Met        | Ser        | Pro        | Gly        | Phe<br>175 | Pro        |
| Val        | Asn        | Asn        | Ser<br>180 | Ser        | Ser        | Asp        | Asn        | Ala<br>185 | Gln        | Asn        | Phe        | Ser        | Phe<br>190 | Lys        | Thr        |
| Asn        | Ser        | Gly<br>195 | Phe        | Ala        | Ala        | Ala        | Ser<br>200 | Ser        | Gly        | Ser        | Pro        | Ala<br>205 | Gly        | Phe        | Gly        |
| Ser        | Ser<br>210 | Pro        | Ala        | Phe        | Gly        | Ala<br>215 | Ala        | Ala        | Ser        | Thr        | Ser<br>220 | Ser        | Gly        | Ile        | Ser        |
| Thr<br>225 | Ser        | Ala        | Pro        | Ala        | Phe<br>230 | Gly        | Phe        | Gly        | Lys        | Pro<br>235 | Glu        | Val        | Thr        | Ser        | Ala<br>240 |
| Ala        | Ser        | Phe        | Ser        | Phe<br>245 | Lys        | Ser        | Pro        | Ala        | Ala<br>250 | Ser        | Ser        | Phe        | Gly        | Ser<br>255 | Pro        |
| Gly        | Phe        | Ser        | Gly<br>260 | Leu        | Pro        | Ala        | Ser        | Leu<br>265 | Ala        | Thr        | Gly        | Pro        | Val<br>270 | Arg        | Ala        |
| Pro        | Val        | Ala<br>275 | Pro        | Ala        | Phe        | Gly        | Gly<br>280 | Gly        | Ser        | Ser        | Val        | Ala<br>285 | Gly        | Phe        | Gly        |
| Ser        | Pro<br>290 | Gly        | Ser        | His        | Ser        | His<br>295 | Thr        | Ala        | Phe        | Ser        | Lys<br>300 | Pro        | Ser        | Ser        | Asp        |
| Thr<br>305 | Phe        | Gly        | Asn        | Ser        | Ser<br>310 | Ile        | Ser        | Thr        | Ser        | Leu<br>315 | Ser        | Ala        | Ser        | Ser        | Ser<br>320 |
| Ile        | Ile        | Ala        | Thr        | Asp<br>325 | Asn        | Val        | Leu        | Phe        | Thr<br>330 | Pro        | Arg        | Asn        | Lys        | Leu<br>335 | Thr        |
| Val        | Glu        | Glu        | Leu<br>340 | Glu        | Gln        | Phe        | Gln        | Ser<br>345 | Lys        | Lys        | Phe        | Thr        | Leu<br>350 | Gly        | Lys        |
| Ile        | Pro        | Leu<br>355 | Lys        | Pro        | Pro        |            | Leu<br>360 | Glu        | Leu        | Leu        | Asn        | Val<br>365 |            |            |            |

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Cys Leu Lys Met Lys Asp Gln Cys Glu Lys Cys

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<400> 70 Lys Thr Pro Ser Val Ser Asp Ala Val Ala Met Ala Ile Cys Gln Phe

Phe Leu Gln Gly Arg Cys Arg Phe Gly Asp Arg Cys Trp Asn Glu His

Pro Gly Ala Arg Gly Ala Gly Gly Gly Arg Gln Gln Pro Gln Gln

Pro Ser Gly Asn Asn Arg Arg Gly Trp Asn Thr Thr Ser Gln Arg Tyr

Ser Asn Val Ile Gln Pro Ser Ser Phe Ser Lys Ser Thr Pro Trp Gly 70

Gly Ser Arg Asp Gln Glu Thr 85